BEFORE THE ARIZONA CORPORATION COMMISSION

MIKE GLEASON
Chairman
WILLIAM A. MUNDELL
Commissioner
JEFF HATCH-MILLER
Commissioner
KRISTIN K. MAYES
Commissioner
GARY PIERCE
Commissioner

IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY'S REQUEST FOR APPROVAL OF ITS DEMAND-SIDE MANAGEMENT EFFICIENT COMMERCIAL BUILDING DESIGN PROGRAM

DOCKET NO. E-01933A-07-0401

DECISION NO. 70459

ORDER

Open Meeting
July 29 and 30, 2008
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. Tucson Electric Power Company ("TEP") is certificated to provide electric service as a public service corporation in the State of Arizona.

2. On July 2, 2007, TEP filed an application for approval of its proposed Demand-Side Management ("DSM") Program Portfolio. On November 14, 2007, TEP filed a revised Portfolio Plan, modifying the delivery mechanism and the measurement/evaluation plans for some programs.

3. The TEP DSM Portfolio consists of ten proposed programs. The TEP Efficient Commercial Building Design Program, which is one of the ten, is being reviewed herein.

Program Description

4. The Efficient Commercial Building Design Program ("Program") is geared toward the building owner/developer based on improved building energy efficiency compared to a baseline design determined by comparing the baseline design to the energy-efficient alternatives,

using a building energy simulation program such as DOE-2[1]. DOE-2 is a widely used and accepted freeware building energy analysis computer program that can predict energy costs of a building given hourly weather information, a building description, and the utility rate structure. The DOE-2 software was developed by James J. Hirsch & Associates in collaboration with Lawrence Berkeley National Laboratory.

5. The Program is a performance-based program that includes design assistance for the design team, performance-based incentives for the building owner/developer, and energy design information resources. Design assistance involves efforts to integrate energy efficiency into a customer's design process as early in the design process as possible. The Program would provide incentives to offset the additional design cost of alternative, energy-efficient designs.

6. In addition to the design incentives and performance-based incentives for the building owner/developer, this Program would provide technical support services to the design community. The Program would provide consumer educational and promotional pieces designed to assist building owners/developers in understanding various energy efficiency options and encourage them to explore energy efficiency options.

Program Rationale

7. Certain barriers exist to the adoption of energy efficiency measures in this market, including:

- lack of investment capital and competition for funds with other capital improvements;
- lack of awareness/knowledge about the benefits and costs of energy efficiency measures;
- high transaction and information search costs; and
- technology performance uncertainties.

8. This Program is designed to help overcome these barriers and encourage greater adoption of energy efficiency measures in new commercial building construction. In addition, new

[1] Use of "DOE" in the name does not imply any endorsement or recommendation by the United States Department of Energy.

construction projects are often time and budget constrained, limiting the ability of building owners/developers and their design professionals to explore alternative energy-efficient design concepts. However, the most cost-effective time to install energy efficiency measures is at the time of construction.

9. In addition to helping customers reduce and manage their energy costs, this Program provides other societal and customer benefits including reduced emissions, improved levels of service from energy expenditures, and lower overall rates and energy costs compared to other resource options.

Program Objectives

10. The primary goal of the Program would be to encourage energy-efficient new building design for new, non-residential projects in TEP's service area. More specifically, the Program is designed to:

- Provide incentives to building owners/developers to design and build more energy-efficient buildings;
- Provide assistance to design teams to offset the additional cost and time of investigating more energy-efficient design;
- Overcome certain market barriers;
- Assure that the participation process is clear and easy to understand and does not unduly burden the design and construction time schedule or budget process;
- Increase the awareness and knowledge of building owners/developers, architects, engineers, and decision-makers on the benefits of high efficiency building design; and
- Encourage building owners/developers and the design community to consider energy efficiency options as early in the design process as possible.

Estimate of Baseline Conditions

11. TEP has not conducted a formal baseline study of new commercial construction design characteristics. In preparing the analysis for the Program, the baseline performance conditions of new commercial construction projects were estimated based on best available knowledge of current market conditions and design practices. To confirm the baseline

assumptions made in the preparation of this plan, TEP is proposing to conduct a formal baseline study; funding for the baseline study will be requested in a separate docket from this Program. Staff has recommended that the Program be approved on a two-year pilot basis. TEP should make a filing with the Commission by July 1, 2010, that includes information on baseline construction practices of commercial buildings.

Products and Services Provided

12. The Efficient Commercial Building Design Program is intended to encourage the design of more energy-efficient buildings by influencing the design as early in the design development process as possible. There are typically more efficiency measures or options available earlier in the process that could influence the energy performance of the building. The Program is also designed to promote a more holistic or whole building approach to energy-efficient building design.

13. The Program offers the following services.

- Building Performance is a comparison of energy usage with the selected energy-efficient alternatives compared to a baseline building design. Building design energy performance would be estimated with an hourly building energy simulation program such as DOE-2. The energy analysis would be conducted by qualified energy professionals with expertise in building energy simulation modeling.
- Design Assistance would be offered to the design team to aid in the efforts of design professionals to examine alternative energy-efficient designs.
- Technical Support Services would be offered to the design community.
- Customer Education would be designed to assist building owners/developers in understanding the various energy efficiency options and encourage them to explore energy-efficiency options with their design professionals early in the design process.
- Professional Outreach is offered by the Program to assist design professionals with understanding how the design incentive system works, what tools are available to support the design process, and how the Program functions.
- Incentives

- Building Performance Incentive for Building Owners/Developers would be 10¢ per annual kWh saved[2] and could not exceed 50 percent of the incremental costs, nor could incentives exceed $300,000 per customer. Incentives would be paid to Building Owners/Developers upon completion of construction.

- Design Assistance Incentive would be 5¢ per annual kWh saved and would be paid directly to the design team in addition to owner incentives and could not exceed $10,000 per project. Incentives would be paid to designers upon completion of designs and submission to TEP.

14. Staff has recommended that the Building Performance Incentive be limited to not exceed $75,000 per project, and that the Design Assistance Incentive be limited to not exceed $10,000 per design team during the term of the two-year pilot Program. Staff agrees with the Company's proposed 50 percent cap, and has recommended that, in calculating the 50 percent cap, any applicable energy efficiency rebates and incentives, including federal, state, and local tax credits that are being offered for energy efficiency improvements should be taken into account. The amounts of any rebates, incentives, and credits should be subtracted from the incremental cost of the energy efficiency measures.

15. As an example, if efficiency measures added $10,000 to the cost of a building, and if $2,000 in tax credits were available, the cost of the improvements would be $8,000 for purposes of the 50 percent cap. If the investment saved 75,000 kWh annually, the 10¢ per annual kWh saved would amount to $7,500. Because the incentive payment could not exceed 50 percent of the improvement costs, the payment would be limited to $4,000.

Marketing of Program

Target Market and Eligibility Requirements

16. All new commercial building projects and major renovations to existing buildings in the TEP service territory that receive or will receive electric service from TEP are eligible to participate in the Program. Major renovation for this purpose would be a substantial or significant change to an existing structure, i.e., completely gutting a building and installing insulation, new windows, new HVAC equipment, etc.

[2] As estimated by the DOE-2 software.

Estimated Participation

17. The Company expects that, on average, 14 buildings annually would participate in the Program.

Delivery Strategy and Administration

18. The Efficient Commercial Building Design Program is a performance-based efficiency program and will be managed by an Implementation Contractor ("IC"). The IC would provide:

- a source of guidance on the program;
- training on program activities and technical assistance for design professionals;
- an important contact point for customers who are interested in or have concerns about the program; and
- overall quality control and management of the delivery process.

19. The IC would provide program administration, marketing, application and incentive processing, participation tracking and reporting, project quality control, and technical support. TEP would provide oversight, conduct outreach and provide training on the benefits and function of the program to the design community, potential project developers, the commercial building ownership and management community, and professional real estate organizations such as the Building Owners and Managers Association ("BOMA").

Marketing and Communications

20. The marketing and communications strategy would be designed to inform building owners/developers, key customer groups involved in new construction activities (e.g., school systems), and design professionals of the availability and benefits of the Program and how they can participate in the Program. An important part of the marketing plan would be the content and functionality on the TEP website, which would direct customers to information about the Program. More specifically, the marketing and communications plan would include:

- Education seminars about how to participate in the Program. The seminars would be tailored to building owners, potential project developers, key customer groups involved in new construction activities (e.g., school systems), and architects and engineers.

- A combination of marketing strategies including media advertising, outreach and presentations at professional and community forums and events, and direct outreach to building owners/developers and design professionals. Marketing activities would include the following.

  - Brochures would be prepared that describe the benefits and features of the Program including Program application forms and worksheets. The brochures would be mailed upon demand and distributed through the call center and TEP.com and would be available for various public awareness events.

  - Targeted mailing would be used to educate customers on the benefits of the Program and explain how they can apply.
  - Customer and trade partner outreach and presentations (e.g., school associations, BOMA, and the American Society of Heating, Refrigerating and Air-Conditioning) would inform interested parties about the benefits of the Program and how to participate.

  - Print advertisements to promote the Program would be placed in selected local media including Tucson area newspapers and trade publications.

  - Website content at TEP.com would provide Program information resources, contact information, downloadable application forms and worksheets, and links to other relevant service and information resources.

  - TEP Account Executives and Program Managers would be trained to answer any customer questions regarding the Program.

  - Presence at conferences and public events would be used to increase general awareness of the Program and distribute Program promotional materials.

  - Presentations to key customers and customer groups would actively solicit their participation in the Program.

- Identification of key customer segments and groups for target marketing such as the University of Arizona, school districts, Ft. Huachuca, and Davis-Monthan Air Force Base and specific outreach activities for these customers.

21. TEP would design and develop the content, messaging, and branding for all marketing and collateral materials used to promote the Program. The TEP Program Manager would be responsible for Program promotion and would be the primary contact point as would be indicated on the website and other promotional materials.

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Measurement and Verification

22. TEP would adopt a Measurement and Verification ("M&V") strategy that calls for integrated data collection designed to provide a quality data resource for Program tracking, management, and evaluation. This approach would entail the following primary activities:

- Database management - As part of Program operation, TEP or an approved contractor would collect the necessary data elements to populate a tracking database and provide periodic reporting.
- Integrated implementation data collection - TEP would work with the IC to establish systems to collect the data needed to support effective Program management and evaluation through the implementation and customer application processes. The database tracking system would be integrated with implementation data collection processes.
- Field verification - TEP or an approved contractor would conduct field verification of the installation of a sample of measures throughout the implementation of the Program.
- Tracking of savings - TEP would develop deemed savings values for each measure and technology promoted by the Program and periodically review and revise the savings values to be consistent with Program participation and accurately estimate the savings being achieved by the Program.

23. This M&V approach would provide TEP with ongoing feedback on Program progress and enable management to adjust or correct Program measures to be more effective, provide a higher level of service, and be more cost beneficial. Integrated data collection would provide a high quality data resource for evaluation activities.

24. Staff has recommended that actual energy savings be obtained for all projects and measures. Staff has also recommended that TEP modify those measures which do not provide sufficient energy savings to make them cost-effective, and eliminate those measures that cannot be modified in a manner that would produce cost-effective energy savings.

Proposed Program Budget

25. The proposed annual budget of approximately $800,000 is shown in Table 1. The Company proposes three percent annual increases in Program budgets through 2012.

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Table 1
Tucson Electric Power Company
Energy-Efficient Commercial Building Design
Proposed 2008 Budget

Total Administrative Cost[3]	**$144,000**	**18%**
Managerial & Clerical	$96,783	
Travel & Direct Expenses	$11,374	
Overhead	$35,843	
Total Marketing[3]	**$64,000**	**8%**
Internal Marketing Expense	$32,000	
Subcontracted Marketing Expense	$32,000	
Total Direct Implementation	**$568,000**	**71%**
Financial Incentives	$454,400	
Support Activity Labor	$22,720	
Hardware & Materials	$5,680	
Rebate Processing & Inspection	$85,200	
Total M&V Cost	**$24,000**	**3%**
M&V Activity	$13,443	
M&V Overhead	$10,557	
Total Program Cost	***$800,000***	***100%***

26. If TEP's Measurement and Verification activities identify portions of the Program that are not meeting expected cost effectiveness, Staff has recommended that budget amounts be redirected toward other non-residential DSM programs.

27. Staff has recommended that TEP be allowed to shift up to 25 percent of funding between non-residential DSM programs.

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3.Administrative expenses include TEP and Subcontractor labor for management, supervision, and clerical effort on Program development and planning. Travel and Direct Expenses include labor expense, conference fees, airfare, meals, and lodging. Overhead Expenses are labor and equipment costs of regulatory reporting, IT, communications, and general office expenses. Internal and subcontracted marketing expense includes labor and material expense for advertising, media promotion, brochures, web site development, customer relations and outreach.

28. Staff has also recommended that TEP ensure that its in-house labor costs are recovered either through base rates or through the DSM adjustor, if a DSM adjustor is approved, but not from both.

Demand and Energy Savings

29. Total annual participation goals and demand and energy savings are presented in Table 2. The Program expects that, on average, 14 buildings annually would participate in the Program.

Table 2
Efficient Commercial Buildings
Demand and Energy Savings

ANNUAL INCREMENTAL REDUCTIONS	2008	2009	2010	2011	2012
Number of Facilities	13	13	14	14	15
Peak Demand (kW)	658	677	698	719	740
Energy (MWh)	3,029	3,120	3,214	3,310	3,410

30. Total energy savings over the lifetime of the measures are estimated to be 257,330 MWh.

31. In addition to the savings shown above, it is estimated that the Program would produce lifetime environmental benefits as presented in Table 3.

Table 3
Projected Lifetime Environmental Benefits

Water	128 million gallons
SO_X	615,019 lbs
NO_X	1.02 million lbs
CO_2	537 million lbs

Benefit/Cost Analysis

32. Staff's analysis indicates a benefit/cost ratio of 1.18 for the Program as a whole, and a lifetime societal net benefit of $1.3 million.

33. Rather than evaluate individual energy efficiency measures, such as the use of higher SEER HVAC systems, TEP has determined the estimated benefits and costs for several

types of entire commercial buildings: large and small office buildings, Retail, Health Care, Hotel/Resort, Grocery, and Schools. For each building type, TEP used a typical size and construction cost. This represented the baseline cost. TEP then assumed, for each building type, that energy-efficient construction measures would increase construction costs by 0.65 percent.

34. For energy savings, for each building type, TEP used typical energy use per square foot factors. This represented the baseline energy use. TEP then assumed, for each building type, that energy-efficiency construction measures would decrease energy usage by 25 percent. The Company states "Studies have shown savings as high as 30 percent for energy and 50 percent for demand (Energy & Economics, NE Utilities)."

Reporting Requirements

35. If the Program is approved, it should be included in TEP's semi-annual DSM reports filed with the Commission.

36. Staff has recommended that, at a minimum, reporting for the TEP Efficient Commercial Building Design Program should include:

(i) the number of participants;

(ii) the number and type of projects/measures installed;

(iii) the average cost of the installed projects/measures;

(iv) descriptions of program marketing;

(v) copies of new or revised marketing materials;

(vi) estimated cost savings to participants;

(vii) energy savings as determined by the monitoring and evaluation process;

(viii) the total amount of the program budget spent during the previous six months, the previous year and since the inception of the program;

(ix) any significant impacts on program cost-effectiveness;

(x) environmental savings, and

(xi) descriptions of any problems and proposed solutions, including movements of funding from one project or program to another.

Summary of Staff Recommendations

37. Staff has recommended that the TEP Efficient Commercial Building Design Program be approved on a two-year pilot basis, as discussed herein.

38. Staff has recommended that TEP make a filing with the Commission by July 1, 2010, that includes information on baseline construction practices of commercial buildings.

39. Staff has recommended that the Building Performance Incentive be limited to not exceed $75,000 per project, and that the Design Assistance Incentive be limited to not exceed $10,000 per design team during the term of the two-year pilot Program.

40. Staff has recommended that, in calculating the 50 percent cap on incentive payments, any applicable energy efficiency rebates and incentives, including federal, state, and local tax credits that are being offered for energy efficiency improvements should be taken into account. The amounts of any rebates, incentives, and credits should be subtracted from the incremental cost of the equipment.

41. Staff has recommended that actual energy savings be obtained for all projects and measures and that TEP modify those measures which do not provide sufficient energy savings to make them cost-effective, and eliminate those measures that cannot be modified in a manner that would produce cost-effective energy savings.

42. Staff has recommended that the Efficient Commercial Building Design Program be included in TEP's semi-annual DSM reports filed with the Commission.

43. Staff has recommended that, at a minimum, reporting for the Program should include:

(i) the number of participants;

(ii) the number and type of projects/measures installed;

(iii) the average cost of the installed projects/measures;

(iv) descriptions of program marketing;

(v) copies of new or revised marketing materials;

(vi) estimated cost savings to participants;

(vii) energy savings as determined by the monitoring and evaluation process;

(viii) the total amount of the program budget spent during the previous six months, the previous year and since the inception of the program;

(ix) any significant impacts on program cost-effectiveness;

(x) environmental savings, and

(xi) descriptions of any problems and proposed solutions, including movements of funding from one project or program to another.

44. Staff has recommended that budget amounts be redirected toward other non-residential DSM programs if TEP's M&V activities identify portions of the Program that are not meeting expected cost effectiveness.

45. Staff has recommended that TEP be allowed to shift up to 25 percent of funding between non-residential DSM programs.

46. Staff has also recommended that TEP ensure that its in-house labor costs are recovered either through base rates or through the DSM adjustor, if a DSM adjustor is approved, but not from both.

CONCLUSIONS OF LAW

1. TEP is an Arizona public service corporation within the meaning of Article XV, Section 2, of the Arizona Constitution.

2. The Commission has jurisdiction over TEP and over the subject matter of the application.

3. The Commission, having reviewed the application and Staff's Memorandum dated July 15, 2008, concludes that it is in the public interest to approve the TEP Efficient Commercial Building Design Program as discussed herein.

ORDER

IT IS THEREFORE ORDERED that the Tucson Electric Power Company Efficient Commercial Building Design Program be and hereby is approved on a two-year pilot basis, as discussed herein.

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IT IS THEREFORE ORDERED that TEP make a filing with the Commission by July 1, 2010, that includes information on baseline construction practices of commercial buildings.

IT IS THEREFORE ORDERED that the Building Performance Incentive be limited to not exceed $75,000 per project, and that the Design Assistance Incentive be limited to not exceed $10,000 per design team during the term of the two-year pilot Program.

IT IS FURTHER ORDERED that, in calculating the 50 percent cap on incentive payments, any applicable energy efficiency rebates and incentives, including federal, state, and local tax credits that are being offered for energy efficiency improvements shall be taken into account and subtracted from the incremental cost of the equipment.

IT IS FURTHER ORDERED that actual energy savings be obtained for all projects and measures and that Tucson Electric Power Company modify those measures which do not provide sufficient energy savings to make them cost-effective, and eliminate those measures that cannot be modified in a manner that would produce cost-effective energy savings.

IT IS FURTHER ORDERED that budget amounts be redirected toward other non-residential DSM programs if Tucson Electric Power Company's M&V activities identify portions of the Program that are not meeting expected cost effectiveness.

IT IS FURTHER ORDERED that Tucson Electric Power Company be allowed to shift up to 25 percent of funding between non-residential programs.

IT IS FURTHER ORDERED that the Efficient Commercial Building Design Program be included in Tucson Electric Power Company's semi-annual DSM reports filed with the Commission.

IT IS FURTHER ORDERED that, at a minimum, reporting for the Tucson Electric Power Company Efficient Commercial Building Design Program shall include:

(i) the number of participants;

(ii) the number and type of projects/measures installed;

(iii) the average cost of the installed projects/measures;

(iv) descriptions of program marketing;

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(ix) any significant impacts on program cost-effectiveness;

(x) environmental savings, and

(xi) descriptions of any problems and proposed solutions, including movements of funding from one project or program to another.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRMAN COMMISSIONER

COMMISSIONER COMMISSIONER COMMISSIONER

IN WITNESS WHEREOF, I, BRIAN C. McNEIL, Executive Director of the Arizona Corporation Commission, have hereunto, set my hand and caused the official seal of this Commission to be affixed at the Capitol, in the City of Phoenix, this 6th day of August, 2008.

BRIAN C. McNEIL
EXECUTIVE DIRECTOR

DISSENT: _____

DISSENT: _____

EGJ:JJP:lhm\JMA

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